FEED&GRAIN

June 11, 2008

Quality - How to Keep it Everybody's Job

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You know "quality" doesn't just apply to grain these days. There are lots of ways to build a mind-set for quality designed to benefit both you and your customers.

Quality — we talk about it lots. Customers are concerned about it — grain farmers that deliver grain to your elevator – where their grain is graded by quality; or livestock farmers that purchase feed from you in the feed business — where they want the highest quality feedstuffs to feed to their dairy cows, poultry, hogs or other livestock. When you sell grain, your customers are also concerned about grain quality of the wheat, corn, soybeans or other grain products that you ship out of your elevator, destined for domestic or international markets.

As managers you are concerned about it keeping track of inbound ingredients and outbound products, as well as exhorting your employees to do their best to turn out the finest products possible, and to try to minimize their on-the-job errors that affect product quality.

Why is quality important? Maintaining high quality can be the right thing to do. It keeps customers coming back and is good for public relations because you can become known for the quality of your products. However, it is one thing to talk about quality and another to put into practice, and get "buy in" from all of your employees.

Gary Vasilash, editor of Automotive Design and Production, states: "Isn't it conceivable that because quality is considered "a given" that people take it for granted: They don't pay as much attention to it as they should . . . After all, it may be a part of the fabric of the company. There are sensors and measuring machines. Policies and procedures. Plenty of trained people. Plenty of people collecting data. Companies organized so that "everyone is responsible for quality." Everyone . . . or no one?" This is an interesting and disturbing thought. But we tend to agree with him. Unless you are a company that is large enough to have a quality control manager, the approach may be "everyone and no one."

This month, we tackle this challenging issue of quality — and take a look at it from a variety of different angles. In researching background for this column, we came upon a GREAT resource the American Society for Quality (www.asq.org). They offer resources, training and thought provoking articles about quality. We draw on some of their resources as well as others for this column. We hope we give you some useful things to think about, work on and which will allow you to take a cue from Ford's old slogan "Quality is Job One."

Customer Satisfaction

While customer satisfaction is comprised of many components — customer service, pricing, the type and brand of products you sell, your billing policies as well as other things — quality is certainly a key part of this mix. Quality itself can have multiple aspects including product quality (the quality of the feed you produce or the grain that you ship out) and service quality (the things your people do; the value customers ascribe to your order desk; the service your sales and delivery people provide; and the way you followup on questions and concerns). The majority of our thoughts this month will focus on product quality, but there will be some recommendations relative to service quality.

Customer satisfaction can be tempered by trading off quality and price. These two are typically positively related — as quality goes up, price tends to go up and vice versa. Thus, it is possible that you can offer lower quality products as long as a lower price accompanies them. The thought here is that “you get what you pay for.” In addition, perceived value becomes part of the “package” as well.

Experts in marketing and sales state that it makes good business sense to deliver more than expected. If possible (and cost-effective), this can help produce very high customer satisfaction, as the customer is expecting one thing but is pleasantly surprised by getting something better. One of the best examples of this in action, is illustrated by Google’s Corporate Philosophy — Point number 10 “Great Just Isn’t Good Enough.” Under this point, they make the assertion that they will “always deliver more than expected.” They state “. . . Google is able to identify points of friction quickly and smooth them out. Google’s point of distinction, however, is anticipating needs not yet articulated by our global audience, then meeting them with products and services that set new standards.” This is the essence of thinking through the products and services you market and giving people more than anticipated!

The Cost of Quality

There are numerous costs to quality — and these are actual costs that can be quantified. Below, we will look at some of these costs (paraphrased from the American Society for Quality). The point we are attempting to make is that costs can be identified, and once identified can be monitored and your employees can be made aware of them. These are most applicable in a manufacturing situation, so in the feed and grain industry they may fit best in the case of feed manufacturing. However, there are some that fit for the grain industry, and we will highlight those where appropriate.

Prevention costs are the costs associated with activities designed to prevent poor quality in the products and services you deliver. Examples here might be planning for quality — where you as manager get together with your employees and analyze possible sources of mistakes or look at your manufacturing system to see where contamination or improper product handling might occur.

While the costs of these meetings might not be “out-of-pocket” costs in terms of dollars and cents, they do cost nonetheless — in terms of time and effort. Other processes that might cost time and money here would be education and training in the area of quality and analyzing suppliers for their ability to deliver quality ingredients. Prevention costs might include things like monitoring the settings on your grain dryer to ensure that grain does not dry down too much — so that you lose quality in the form of kernel breakage in corn or splits in soybeans — causing fines; or monitoring temperature in your grain bins to ensure that grain does not mold or heat and go out of condition.

The second class of costs of quality is termed “appraisal costs,” and these are expenses affiliated with measuring or testing products or services to make sure they conform to your quality standards and any associated performance requirements. In the feed business, this would cover all of your in-bound testing of ingredients, such as checking the protein level of incoming soybean meal.

Other sources of cost would include your in-line and final inspection/sampling/testing. Most feed manufacturers run periodic tests on finished product, and grain operators sample load-out shipments to check for blending quality and efficiency. In addition, other costs here would include those associated with calibration of your measuring and testing equipment as well as supplies and materials associated with all of the above activities.

The third area of quality costs are those termed “failure costs.” These are costs resulting from a product or service not complying with requirements or meeting customer needs. The experts divide these costs into internal and external failure costs.

Internal failure costs occur prior to shipping the product to your customer. These costs include anything resulting from having to “rework” or “downgrade” the product because it did not meet your specs. Examples would include remixing and remaking a feed that had poor pellet quality due to insufficient moisture in the feedstuff as it went through the pellet die. A load of wheat might have to be downgraded in grade because a slide was stuck open and allowed a

larger volume of lower grade wheat to be mixed than planned — reducing the quality of the whole outbound shipment.

External failure costs occur after the product leaves your place of business and possibly during or after it reaches the customer. Generic examples here include costs associated with handling customer complaints, product recalls or customer returns. Specific examples in the grain and feed industry might include delivery of the wrong product to a livestock producer (18% pelleted complete feed delivered to a dairy farmer who needed a 38% concentrate); or perhaps a customer complaint on a grain shipment because of short weights due to a loose slide on a railcar.

All of the above costs contribute to the total cost of quality — spending time, money and effort to reduce them, or paying to fix the problems after they occur. A more detailed look at cause and effect can be found in a text edited by Jack Campanella, “Principles of Quality Costs: Principles, Implementation and Use,” (ASQ Quality Press, 1999).

Some Other Quality Concepts

Management gurus have put forth several other quality concepts in the recent past, and some of them have applicability to the feed and grain business as well. It is worth reviewing them and seeing what they have to offer.

TQM:
“Total Quality Control” was the key concept of a 1951 book by Armand Feigenbaum’s titled, Quality Control: Principles, Practice, and Administration, in a chapter titled “Total Quality Control.” Total Quality Management (TQM) is an approach that followed from this work and attempts to allow your whole company to focus on quality by integrating all organizational functions to focus on meeting the needs of the customer.

Specifically, according to Lawrence Martin in his book “Total Quality Management in Human Service Organizations,” TQM employs these key principles: Management Commitment, which includes management’s commitment to quality by planning, communicating and regularly reviewing progress toward quality; Employee Empowerment, to include training, measurement of results and recognition of jobs well done. Martin also supports the formation of “Excellence Teams” in the area of Employee Empowerment where these teams work on innovative ideas and monitor themselves in regard to quality. The third TQM principle involves “Fact Based Decision Making,” and implies a strong commitment to analyzing results statistically to determine the percent of product meeting standards you set. The fourth principle is a focus on “Continuous Improvement,” and looks at attaining, maintaining and improving standards via use of the above described excellence teams with management’s input. The final principle is to maintain a “Customer Focus,” which implies continuously gathering input from customers to help set desirable standards for your product and to “never compromise quality.”

Six Sigma:
“Six Sigma” is a more recent development (initiated in the 1980s) and is a registered service mark and trademark of Motorola. Motorola has reported over $17 billion in savings from Six Sigma as of 2006. The objective of Six Sigma Quality is to reduce process output variation so that on a long-term basis, (which is your customer’s aggregate experience with your product or service over time), this will result in no more than 3.4 defects/million (parts per million or ppm) opportunities.

For a process with only one specification limit (Upper or Lower), this results in six process standard deviations between the mean of the process and the customer’s specification limit (thus 6 Sigma — as sigma is the Greek letter used for standard deviation in statistics). Specifically, higher sigma values indicate better processes and products; lower values are less desirable. Six Sigma (99.99966% perfection) is thus better than three sigma. As a result, Six Sigma can be characterized as a continuous effort to reduce variation in process output as a key to business success, and asserts that manufacturing and business processes can be measured, analyzed, improved and controlled.

There is a commercial Six Sigma website you might find useful, which has some case studies of companies using the Six Sigma approach and offers training opportunities for managers and others www.isixsigma.com.

Specific Recommendations for Quality Grain and Feed

Quality for grain and feed products is critical in part because they are quasi-perishable. Under controlled storage conditions, feed and grain products have significant “shelf life.” The key is providing these optimum conditions so that quality is preserved. Purdue University Extension suggests following the “SLAM” approach: Sanitation, Loading, Aeration and Monitoring. While the program is geared for farmers, we feel that it is applicable to anyone in the

industry and is worth reviewing.

Sanitation includes cleaning and maintaining equipment, disinfecting storage areas inside and out before refilling, removing all grain spills and removing vegetation and maintaining a weed-free facility. Benefits of sanitation include reducing the chance of mold and insects and keeping weed seeds and foreign material out of bins.

Loading quality procedures include: using proper drying techniques; minimizing grain transfers by optimizing handling and storage; operating augers and legs at capacity and at slowest possible speeds; only storing grain in aerated structures, recording grain moistures going into bins and screening for mycotoxins. Benefits of proper loading include: reduction of stress cracks and brittleness.

Aeration specifically means maintaining low grain temperatures as long as possible during storage; running fans appropriately or installing automatic fan controllers; and installing adequate exhaust vents to help avoid condensation. Aeration benefits include the fact that cooler grain maintains condition longer; nonuniform moisture from high-temperature drying is equalized; and excess moisture introduced from condensation is reduced or eliminated.

The final part of the acronym is Monitoring which includes installation of temperature monitors; checking stored grain regularly for temperature, moisture, insects and molds; repairing any leaky roofs, seals or joints. Benefits of proper monitoring are temperature changes and damp grain are detected early; heat generated by insect or mold activity can be handled early; and finally moisture introduced via leaks is prevented. More detail can be found online at: http://www.ces.purdue.edu/extmedia/ID/ID-207.html.

Quality— Keep it Everybody's Job

Hopefully, we have provided you with several different ways to look at quality, and have made the case that you must continually remind, educate and monitor your employees regarding quality. Quality can be quantified and definitely has value. Some companies find it useful to institute incentives for employees based on quality. You will have to decide if such an approach is worthwhile for your business.

In addition, good quality can often be traced to attentive, concerned employees – and we know that good employees are a result of proper higher practice standards and equitable salaries – things that definitely fall under your purview as manager! So, best wishes for keeping quality "top of the mind" for you and your workers.

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